

Claims

What is claimed is:

1. A device for increasing inertia of a disc drive mounted within a computer system, the disc drive having a first inertia, the device comprising:
 - (a) a mounting plate securable to the disc drive, the mounting plate having a second inertia, the second inertia of the mounting plate being at least equal to the first inertia of the disc drive; and
 - (b) at least one resilient compressible member securable between the mounting plate and the computer system for isolating movement of the mounting plate relative to the computer system.
- 15 2. The device of claim 1 wherein the mounting plate includes a base, a first side wall connected to the base, and a second side wall connected to the base substantially opposite the first side wall, the first side wall and the second side wall securable to the computer system.
- 20 3. The device of claim 2 wherein the first side wall and the second side wall each have at least one mounting aperture formed therethrough and the computer system has at least one system aperture formed therethrough, each mounting aperture alignable with each system aperture, and further comprising a fastening mechanism receivable within each mounting aperture and securable within each corresponding system aperture of the computer system.

4. The device of claim 3 wherein a resilient member is positioned between the first side wall and the second side wall, each resilient member being aligned with one of the mounting apertures and a corresponding system aperture.

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5. The device of claim 3 wherein each resilient compressible member has a first end having a first grommet-like portion and a second end having a second grommet-like portion, the first grommet-like portion being insertable into one of the mounting apertures and the second grommet-like portion being insertable into one of the corresponding system apertures.

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6. The device of claim 1 wherein each resilient compressible member is constructed from a material selected from the group consisting of rubber and plastic.

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7. A method of increasing inertia of a disc drive of claim 1 mounted in a computer system, the disc drive having a first inertia, comprising steps of:

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(a) securing a mounting plate to the disc drive, the mounting plate having a second inertia equal to or greater than the disc drive; and

(b) isolating the combined mounting plate and disc drive.

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8. A method for increasing inertia of a disc drive mounted within a computer system, the disc drive having a first inertia, comprising steps of:

5 (a) providing a mounting plate, the mounting plate having a second inertia at least equal to the first inertia of the disc drive;

(b) securing the disc drive to the mounting plate; and

(c) providing at least one resilient member between the mounting plate and the computer system.

9. The method of claim 8 and further comprising steps of:

(d) securing a first side wall to the mounting plate;

(e) securing a second side wall to the mounting plate;

10 (f) securing the disc drive between the first side wall and the second side wall; and

(g) securing the first side wall and the second side wall to the computer system.

15 10. The method of claim 9 and further comprising steps of:

(h) positioning at least one resilient member between the first side wall and the computer system; and

(i) positioning at least one resilient member between the second side wall and the computer system.

20 11. A device for increasing inertia of a disc drive mounted within a computer system constructed from the method of claim 8, the device comprising:

a mounting plate having a second inertia at least equal to the first inertia of the disc drive, the disc drive securable to the mounting plate; and

25 at least one resilient member positioned between the mounting plate and the computer system.

12. An isolation device for improving seek and settle times for a disc drive in a computer system, the disc drive having a predetermined moment of inertia, the isolation device comprising:

5 means secured to the disc drive for increasing the moment of inertia of the disc drive by a factor of at least two; at least one isolator between the disc drive and the computer system for isolating movement of the disc drive relative to the computer system.

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13. The isolation device of claim 12, wherein the disc drive has a first inertia, further wherein the means includes a mounting plate having a second inertia, the second inertia of the mounting plate being equal to or greater than the first inertia of the disc drive.

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14. The isolation device of claim 13 wherein the mounting plate includes a base, a first side wall connected to the base, and a second side wall connected to the base substantially opposite the first side wall, the first side wall and the second side wall securable to the computer system.

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15. The isolation device of claim 13 wherein the isolator is a resilient compressible member positioned between the means and the computer system.

25 16. The isolation device of claim 15 wherein each resilient compressible member is constructed from a material selected from the group consisting of rubber and plastic.

17. A method for improving seek and settle times for a disc drive in a computer system, the disc drive having a predetermined inertia, comprising steps of:
 - (a) at least doubling the inertia of the disc drive; and
 - 5 (b) isolating movement of the disc drive relative to the computer system.
18. The method of claim 17 wherein the disc drive has a first inertia, and further comprising steps of:
 - 10 (c) providing a mounting plate having a second inertia equal to or greater than the first inertia of the disc drive;
 - (d) securing the disc drive to the mounting plate; and
 - (e) securing the mounting plate to the computer system.
- 15 19. The method of claim 18 and further comprising steps of:
 - (f) providing at least one isolator; and
 - (g) positioning the isolator between the mounting plate and the computer system.
- 20 20. The method of claim 19 wherein the isolator is a compressible, resilient member constructed from a material selected from the group consisting of rubber and plastic.